



SummerTech

RESOURCE GUIDE FOR GIRLS

SUMMER 2001 . . .

The future is here!

This summer you could...

Develop your own web page, complete with digital photographs and links to your favorite web sites

Design a 21st century dream house or create a unique fabric design

Write a storyboard for a movie, and make it come to life with special effects and computer animation

Make new friends in far-off places

Use your problem-solving skills to make the world a better place

Technology is the key —
The key to summer fun!
The key to the well-paid
interesting jobs of the future!
The key to your success!

*Summer 2001 is the time to discover new talents and explore new interests.
The summer camps listed inside can help you do it . . .*

SUMMER TECHNOLOGY PROGRAM



A dazzling array of exciting opportunities is available to Northern Virginia students this summer through a special partnership between Northern Virginia Community College, Virginia Tech Northern Virginia Center, Marymount University, and the Northern Virginia Regional Partnership.

Northern Virginia Community College — Annandale Campus

offers three exciting programs
for rising 6th-8th graders:

- ▶ **Web Girls:** Enter the world of technology and investigate the World Wide Web with a purpose! Showcase your skills and creativity by designing personal web pages and presentations. Learn basics of Microsoft Office Suite, including Power Point, and basic HTML for web design. (July 9-13)
- ▶ **Software Smarts:** Explore basic software applications in this user-friendly class. Scan and manipulate photos and graphics. Create personal web pages and eye-catching presentations. (July 9-13)
- ▶ **Cyber-Techs:** Have you ever wanted to learn how a computer really works? Build your very own computer in this intermediate level session. Practice basic HTML programming to create personal web pages, learn how to master multimedia presentations, and produce 3D objects using Computer Aided Drafting (CAD). (Two sessions: July 16-20 and July 23-27)

Scholarships are available. For more information and scholarship applications, contact Cheryl Bailey at 703-323-3183 or email cbailey@nv.cc.va.us. To register, contact the Office of Continuing Education, 703-323-3168.

Northern Virginia Community College — Alexandria Campus

offers three exciting programs
for middle school students:

- ▶ **Computing and the Right Side of the Brain:** Bring out the writer in you, using technology to add creative flair to your work. Personal narratives, Power Point poems, and nutshell novels (the world's shortest novels) will all be enhanced with Internet clip art and other creative uses of technology. Students will also use the computer lab to do some interactive real time writing. (Two sessions: July 9-20 and July 23-August 3)
- ▶ **Robotics:** Explore the fascinating world of robots — both virtual and real. Learn how to build and program a wireless robot to deliver your mail or take a picture. Use your virtual robot to draw real-life objects on the computer and make complex game boards. Beginner and intermediate level robotics camp will be offered. (Beginner: July 9-20; Intermediate: July 23-August 3)
- ▶ **Boatbuilding and Water Ecology:** Build a boat and then use your boat to explore the Potomac River and its wetlands. Help protect the environment by testing water for contaminants and identifying plants and animals living in the Potomac. Computers will be used to gather information and analyze data. (Two sessions: July 9-20 and July 23-August 3)

Scholarships are available. For more information, contact dhimes@nv.cc.va.us (put STP2001 in the subject line of your email) or phone 703-845-6514.

Marymount University in Arlington

offers two summer workshops
for middle school students:

- ▶ **Creative Design:** Do you like to design? Learn how to use the computer to create textile designs and design fabric and clothing. Learn about color perception and the chemical activity of dyes. "Paint" and sketch your designs on the computer. Survey other students and study the trends that drive marketing. (Two sessions: June 25-29 and July 16-20)
- ▶ **Interactive Web Design:** Design your own web page using Dreamweaver software. Learn how to use digital photography, web graphics, and video to enhance the appeal of your site. Use JavaScript to create dynamic links to other web sites. (July 16-20)

For more information, contact Dr. Rosemary Hubbard 703-284-1560 or email Rhubbard@Marymount.edu.

SUMMER TECHNOLOGY PROGRAM

Virginia Tech Northern Virginia Center and Falls Church Public Schools

are offering six exciting programs
for rising 6th-9th graders with a range
of computer skills and interests:

- ▶ **Girls On Line (GOL):** Explore opportunities available to girls online. Learn about careers using computers, visit with women working in exciting technology jobs. Go on field trips to explore various uses of technology. (July 23-August 3)
- ▶ **Web Site Design and Layout:** Create web pages using publishing and graphics programs. Learn HTML commands and how to use editors to produce text, graphics, and animation. (Two sessions: July 9-20 and July 23-August 3)
- ▶ **Virtual Reality:** Experience virtual reality by creating a 3D world using Virtual Reality modeling language to create and publish it on the World Wide Web. In Virtual Reality/Level II, students will learn how to design and implement a collaborative virtual world. (Level I: July 9-July 13; Level II: July 16-20)
- ▶ **Computer Aided Design:** Learn to animate, draw, and manipulate 3D models using Computer Aided Design (CAD). Create your own technology project using multi-media software. (July 9-20)
- ▶ **Technology Tools for ESL Students:** Improve your skills in word processing, using the Internet, creating spreadsheets, and conducting research. Students will participate in the E-mail Mentor Program with an Online Pen Pal from the business world. This class will be taught in English. (August 6-10)
- ▶ **Navigating the Universe:** Investigate the wonders of our celestial surroundings. Map the stars and the planets. Use computers and the Internet to investigate the mysteries of our Universe and communicate with astronomers around the world. (July 23-August 3)

Scholarships are available. For more information, contact Florence Delaney at 703-538-8335 or email fldelane@vt.edu. Register online: <https://www.conted.vt.edu/sytp.htm>.

Northern Virginia Community College — Manassas Campus

offers three exciting camps
for middle and high school students:

- ▶ **Minerals, Gems, and Fossils:** Diamonds come from coal, but all that glitters is not gold. Discover what lies inside that rock in your backyard or beside the road. Maybe you'll dig out a dinosaur bone or find a fairy stone or come across a gem that can become a ring or earring. (6th-8th grades: July 16-July 27)

- ▶ **Robots Meet FightingBots:** Build your own robot. Program it to perform a simple task or a complex one. Compete on a trial course. Work with computers to design and set up your robot. (8th-10th grades: July 5-27)
- ▶ **Be a Time Traveler to the 1860's:** Learn what life was like during the Civil War. Tour battlefields, learn to search historical records, and explore the clothing, music, and games of the era. Refight Civil War battles from the safety of your computer. (6th-8th grades: July 2-13)

Scholarships are available. For more information, contact 703-257-6685.

Northern Virginia Community College — Woodbridge Campus

offers three adventure-packed, interactive,
supremely fun educational programs
for middle and high school students:

- ▶ **Science Tech and Environment Level 1:** Explore wetlands, track animals, collect plants and insects, build skeletons and paddle your canoe! During stream hikes and canoe trips, 7th-9th grade students compare wetland ecosystems by conducting chemical tests and collecting creatures. Using field experiences, digital cameras, and internet research, young scientists will create multimedia wetland web pages. (Two sessions: July 2-13 and July 16-27)
- ▶ **Science Tech and Environment Level 2:** Examine wetland soils, plants, plankton, fish, birds, and beaver while you canoe through marshes and up rivers. FBI forensic experts will help you identify evidence by examining microscopic bits of soil, feather, fiber, and fur. Learn how to interpret wetlands just like the professionals using an amazing mapping program. This program is designed for 8th-11th grade students who have completed the Level 1 program. (Two sessions: July 9-13 and July 16-20)
- ▶ **Adventures in Learning Math and Technology Camp:** Imagine measuring the width of your hair using a laser, creating a laser maze with mirrors, designing and building your own bridge, and mapping the bottom of the campus lake! 6th-8th graders will discover these mathematical relationships and more using canoes, lasers, graphing calculators, data collectors, probes, and spreadsheets. Explore physics using roller coasters equipped with photo-gates, marble launchers, car ramps and motion detectors. Record your activities using digital cameras and build your photos into personal web pages. (July 9-20)

For more information, contact Cindy Smith at 703-878-5698 or email cysmith1@nv.cc.va.us.

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SUMMER TECHNOLOGY PROGRAM

continued from page 3

Northern Virginia Community College — Loudoun Campus

offers sessions for two age levels...
rising 3rd-5th graders
and rising 6th-8th graders:

- ▶ **Basic Creative Computer Camp:**
It's show time! Use your technical problem-solving skills and teamwork to create your own movie idea. Research the Internet, create a movie storyboard, design a web page using digital photography, and make presentations as you prepare for the big show. With the help of a theatrical professional, students will display their personal portfolios and final productions — complete with computer effects and animation — to parents. (Two sessions for grades 3-5: July 9-20 and July 23-August 3; two sessions for grades 6-8: July 2-13 and July 16-27)
- ▶ **Creative Web Development Camp:**
Combine advanced IT skills with teamwork to design, construct, and launch a web site. Participants should have knowledge of web page construction. Camp will focus on web page animation using JavaScript and MS Image Composer, basic and advanced PhotoShop features, digital photography, and copyright regulations. (Rising 6th-8th graders only: July 23-August 3)

Scholarships are available. For more information, contact 703-450-2551 or 2552.



FAIRFAX COUNTY P

Tech Adventure Camp

Technology and careers come alive as students experience new worlds at Fairfax County Public School's Tech Adventure Camp. The two-week camp, which is open to students currently enrolled in grades 6, 7, and 8, will be held at Chantilly and Edison High School Academies (July 9-20). Courses are either new or revised to offer returning students additional topics of interest. Students will rotate through the following three units:

- ▶ **Artistic Expression:** Create woodworking masterpieces using Prototype Design and capture fascinating images on film with an emphasis on composition and lighting using Photo Gallery.
- ▶ **Technology Transfer:** Combine artistic creativity with technology to design and create a web site using Electronic Publishing. Use video and sound to design, build, and operate a theme park in Roller-Coaster Mania. Assemble and program a robot using Junior Robotics.
- ▶ **Life Matrix:** Working with a professional chef, prepare tasty foods in a Kidz Kitchen. Learn about injuries, treatment, and first aid in Junior Medic.

Transportation is provided. Registration begins on May 14 and can be done by fax, mail, or walk-in at any of the four FCPS adult education registration centers. For information about Tech Adventure Camp, call 703-208-7789.

Minicourses

Elementary, middle, and high school students can sharpen their technology skills by taking one or more of FCPS's minicourses. Minicourses are designed to stimulate students' curiosity and provide enriching, creative, learning experiences. These courses vary in length and focus on a wide variety of topics. No transportation is provided. The following science and technology-related minicourses will be offered this summer:

For elementary students:

- ▶ **Science Comes Alive** (Grades 3-6) Explore chemistry, biology, rockets, earth sciences, and physics through a variety of fun, hands-on projects. Perform crystal experiments, make polymers and eatable cells, grow stalactites and stalagmites, design/build catapults, rockets, and use what you've learned to save the Lilliputians.
- ▶ **If this is Math, It Must be Monday** (Grades 4-6) Conquer math! Explore patterns and measurements, develop problem solving and logic skills using fun hands-on math activities.
- ▶ **Keyboarding** (Grades 4-6): Become familiar with the computer keyboard. Learn correct alphabetic finger placement as well as the use and location of specific computer keys. Keyboarding speed will not be addressed.
- ▶ **Creating Your Own Home Page** (Grades 4-6) Learn to create your own home page. Students build a web page around endangered species with Paint and Draw applications.

For middle and high school students:

- ▶ **Video Production** (Grades 7-9): Create your own video, including visual and sound effects and musical backgrounds. Students will shoot their own video footage, learning some of the techniques used by professionals to communicate creatively and effectively in this medium. Students are encouraged to bring their own camcorders if possible.
- ▶ **Visual Basic for Teens** (Grades 8-12): Learn Visual Basic programming, including graphical user interface (GUI), creation and use of controls, boxes, buttons, menus, and scroll bars.

PUBLIC SCHOOLS

- ▶ **Builders and Dreamers – An Introduction** (Grades 7-9): Develop basic skills in drawing, becoming familiar with Computer-Assisted Drafting (CAD) equipment. A good course for students who are interested in careers related to architecture, interior design, construction, or technical drawing.
- ▶ **Builders and Dreamers – Part II** (Grades 7-9): Gain further understanding of technical drawing by learning how to draw three view and isometric drawings, as well as dimensioning and printing techniques.
- ▶ **Introductory and Intermediate Keyboarding for Teens** (Grades 7-12)
- ▶ **Noncredit minicourses in Algebra and Geometry** will be offered for high school students. The courses are designed to refresh and strengthen students' math skills in preparation for the SOLs.

Registration begins on May 14. For more information, contact the Office of Adult and Community Education at 703-227-8451.

Summer Technology Institute

Thomas Jefferson High School for Science and Technology (TJHSST) offers the Summer Technology Institute for rising 8th and 9th grade students, regardless of high school enrollment. The Institute offers a variety of noncredit, enrichment courses providing hands-on experiences with a focus on the uses of technology. The following courses will be offered this summer:

- ▶ **Introduction to Web Pages:** This class is for students who have not had any experience creating web documents from HTML code. (July 23-27)
- ▶ **French Proficiency and Technology:** A three-week immersion class for students who have had one year of French. Students will improve listening and speaking proficiency through group activities, oral presentations, songs, games, movies, interactive computer programs, and the use of audio-visual programs. (July 9-27)
- ▶ **Summer Journalism Institute** (9th graders only): Learn basics of journalistic writing with attention to language, structure, and choice of subject matter. (July 9-13 and July 16-20)
- ▶ **Biotechnology:** Hands-on program using specialized techniques associated with gene mapping, DNA sequencing, and forensic procedures used in DNA fingerprinting. (July 9-13, July 16-20, and July 23-27)
- ▶ **Postage Stamp Computer:** Learn the simplified programming language used to make stamp-sized computers work for you. (July 9-13)
- ▶ **Introduction to the TI-83+ and Calculator Based Laboratory (CBL):** Students will be introduced to the TI-83+ calculator and the CBL and computer interface, using data collected in science experiments. (July 16-20)
- ▶ **Computer Assisted Design:** Students will use AutoCAD and R2000 commands to generate 3D solid models and to produce Photo-Real rendered images. (July 9-13)
- ▶ **Global Positioning Systems:** Students will explore how the global position system functions and operate GPS receiver equipment. (July 9-11)
- ▶ **Applied Electronics** (9th graders only): Students will assemble three hands-on electronic devices involving solid state and computer chip technology.

No transportation is available. Registration begins April 23 at TJHSST and ends May 31. For registration information, contact TJHSST at 703-750-8335.

VIRGINIA TECH COLLEGE OF ENGINEERING

CTECH²

Computers and Technology at Virginia Tech is a three-week residential program for rising 11th and 12th grade girls offered at the Blacksburg campus, July 8-28. The program offers young women the opportunity to explore applications of engineering, math, and science in a fun and exciting way.

Campers will focus on computers – how they work and how to use them to both communicate and to enhance one's thoughts and ideas. The majority of time will be spent in hands-on activities designed to increase interest in applications of engineering, math, and science to real world situations. Students will also be exposed to college life – from residence hall living to college classrooms – and will have the opportunity to explore educational and career options with women who are pursuing careers in engineering, math, and science.

Applications must be postmarked by March 1. For more information, contact the Office of Minority Engineering Programs at 540-231-3973 or visit the web-site at www.eng.vt/ctech2.

NORTHERN VIRGINIA SUMMER ACADEMY

at Episcopal High School in Alexandria

This unique and exciting three-week interdisciplinary program offers intellectually challenging experiences to Northern Virginia's most outstanding students. Rising 11th and 12th grade students will work in groups to explore the relationships between biomedical technology, health care, genetics, and public policy. Classroom sessions include laboratories, such as DNA fingerprinting and simulated detection of HIV, informational lectures, debates related to current health care and ethical issues, cases studies, and role-playing. In addition to academic work, students participate in theater and music activities, team-building projects, and activities designed to improve communication and speaking skills.

Alexandria City Public Schools, Episcopal High School, and Fairfax County Public Schools support this program. Scholarships are available for students with financial need. Application forms are available in high school guidance offices and career centers. (July 9-27)

For more information, visit the web site at www.acps.k12.va.us/nvsa or contact Kathy Geary at 703-765-2395 or jkgear@starpower.net.

GEORGE MASON UNIVERSITY

Science, Engineering, and Technology (SET) Camp

open to rising 6th-9th graders:
(July 16-20)

SET camp is a fun way to introduce middle school students to nontraditional Science, Engineering, and Technology fields through a “learning by doing” model of hands-on activities. The camp emphasizes innovation, creativity, and invention as the prerequisites for a good scientist, and integrates leadership, esteem building, and a “can do” attitude into its science and engineering activities.

Professionals from area technology companies join campers throughout the week to discuss their careers. Campers will produce an electrical or mechanical project. The camp will focus on four broad areas:

- ▶ **Computer Technology and Engineering Projects:** Explore the Internet as a source of reliable information; learn what is reliable and why. Computer art/design and an electrical engineering project are also planned.
- ▶ **The Natural Sciences:** Explore the natural world as our environment for experimentation.
- ▶ **Leadership:** Participate in activities to identify leadership skills and develop confidence.
- ▶ **Fun!**

For registration information, email Dr. Karen Oates at koates@gmu.edu.

Horizons!

Summer Camp for Gifted/Talented

open to rising 5th-8th graders:
(July 9-13)

Horizons! is an enriched day camp designed to help girls and boys develop leadership skills, explore career options, and express creativity through music, dance, drama, and art. Skill building activities include computer technology and athletics, including golf, swimming, and the ropes course. Professionals (CEOs and business owners) serve as role models and offer ongoing mentorship to campers.

The primary goals of the Horizons! Summer Camp are to:

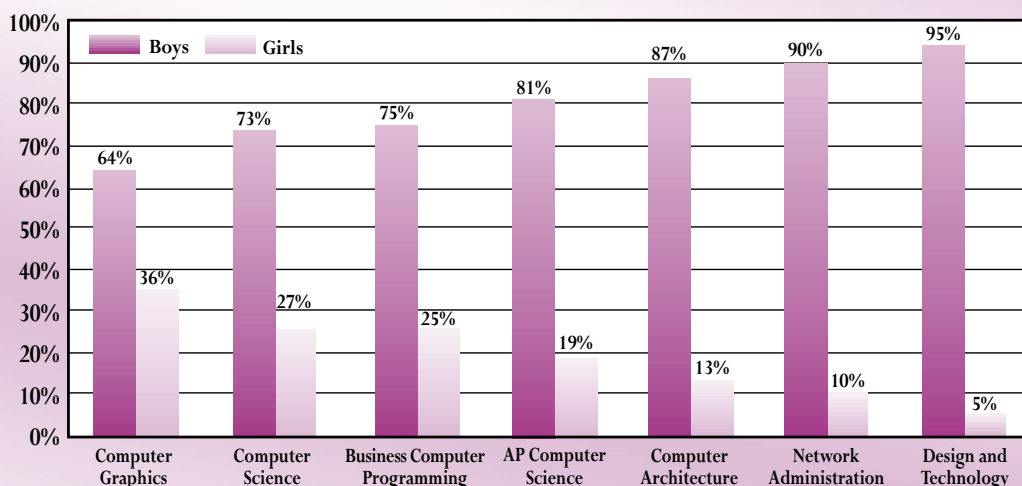
- E**nhance self-esteem
- N**urture confidence and leadership skills
- R**ealize potential
- I**nitiate exploration in career options and goals
- C**reatively express themselves
- H**ORIZONS: 2000, a gender equity curriculum

The one-week camp is open to girls and boys who have demonstrated gifted abilities in academics, technology, athletics, or the arts.

★ **New this year** is an optional after-camp computer club from 3:30-5:30 on Monday through Wednesday. Campers will create one-of-a-kind presentations, using Power Point, Internet clip art and graphics, scanning and image manipulation software.

For more information, visit the website at www.gmu.edu/horizons or contact the Horizons: 2000 office at 703-993-4095.

Girls Severely Underrepresented in Technology Classes in Fairfax County



Source: Fairfax County Office For Women. Based on 2000-01 FCPS enrollment data.

GUM SPRINGS COMPUTER CLUBHOUSE

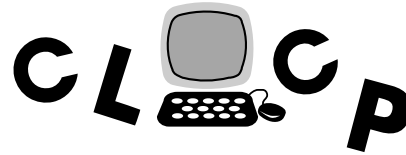
Located at the Gum Springs Community Center, 8100 Fordson Road in Alexandria, the Computer Clubhouse provides a creative and safe summer learning environment for youth from 8 to 18 years of age. The clubhouse's goal is for participants to utilize technology to explore new horizons revolving around their interests and potential careers – not simply to be passive consumers of technology. At the clubhouse, youth have the opportunity to reinvent themselves: Using clubhouse resources to learn what it's like to be an architect, engineer, composer, artist, journalist, computer programmer, or one of the many other professionals that employ technology. Clubhouse members test their creativity by using Mindstorm infra-red technology and Legos, explore the world of science using microscopes, create unique artwork with animation, or produce their own electronic music.



Staffed by VISTA members, county staff, and adult volunteers, the clubhouse is open Monday – Friday 2:00-8:00 p.m. and Saturdays 2:00-6:00 p.m. The clubhouse requires youth and parents to complete a registration and survey. Registration is free and can be conducted during operating hours. The Gum Springs Community Center Computer Clubhouse is a collaborative effort of Fairfax County Community and Recreation Services and Fairfax County Public Library and is sponsored by the Northern Virginia Technology Council.

Further information can be obtained by calling 703-360-6088.

COMPUTER LEARNING CENTERS PARTNERSHIP



With the goal of bridging the technology gap between underserved children and their peers, the Computer Learning Centers Partnership (CLCP) has established “close to home” state of the art computer centers which offer safe, nurturing, no fee access to computer training and literacy. While the majority of the centers serve residents of the housing developments in which they are located, the following four centers are open to children from the surrounding areas:

- ▶ **Culmore Computer Learning Center**
located in the Old Salem Village Apartments
6015 Argyle Blvd., Apt. 7, Falls Church
For more information, call 703-578-3851.
- ▶ **Kingsley Commons Learning Center**
located in the Kingsley Commons Apartments,
3037 B Monticello Drive, Falls Church
For more information, call 703-698-1420.
- ▶ **Herndon Computer Learning Center**
1086 Elden Street, Herndon
For more information, call 703-435-6830.
- ▶ **Sacramento Computer Learning Center**
8792 Sacramento Drive, Alexandria
For more information, call 703-619-2963 or 2962.

Each CLCP facility offers a homework center, career center, computer-recycling program, and training curriculum. Students who complete basic computer skills courses are given an upgraded, donated PC for use in their homes and become members of the TECH club (Take Earned Computers Home).

The centers are open to children from kindergarten through high school. All courses are free to participants. The Computer Learning Center Partnership is a public/private partnership administered by the Fairfax County Office of Partnerships.





Fairfax County Office For Women
& Commission For Women



Dear Parents:

The 2001 Summer Tech Resource Guide for Girls was prepared by the Fairfax County Office For Women with generous support from the Fairfax County Commission For Women and the Northern Virginia Regional Partnership. We hope that this information will help more Northern Virginia girls discover the exciting world of technology.

Too many girls in Northern Virginia and across the nation are leaving school unprepared for the high tech workplace they will soon enter. As parents, you play an important role in helping your children make the best education and career choices. Whether your daughter's future is in the arts or sciences, medicine or law, business or education, her knowledge and use of technology will play a major role in her career.

The Fairfax County Commission For Women and Office For Women have worked for nearly 30 years to remove barriers to full equality for girls in Fairfax County schools. While girls' enrollment has caught up with that of their male peers in most upper level math and science classes, a deep gender gap has developed in technology education.

This technology gender gap challenges our region, and more importantly, the economic security and quality of life of many young women.

We believe the summer technology enrichment programs in this guide offer your daughter a unique opportunity to explore technology apart from the pressures of the school year and to acquire the skills she will need to be a confident user of technology. And maybe even more important, these technology enrichment programs are fun!

Have a great summer.

Alta Newman
Chair
Commission For Women

Leia Francisco
Director
Office For Women

David Hunn
Director
Northern Virginia Regional Partnership

*For additional copies of this resource guide or for more information
about Commission For Women and Office For Women
initiatives around girls and technology, contact:*

FAIRFAX COUNTY OFFICE FOR WOMEN

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